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ABSTRACT

This paper describes the process of creating, redesigning, and piloting a World Wide Web-based faculty development workshop. The workshop, originally presented in a traditional setting, was created to foster reflective thought about teaching philosophies and practice. Moving the workshop from a traditional classroom-like setting to a Web-based environment was motivated by the desire to make it accessible to a larger population and to integrate the latest technology. The workshop was created through multiple iterations of conceptualizing workshop activities, implementing design decisions, and examining theories of learning, motivation, and instructional design. Two graduate instructional design classes (35 students) were invited to complete the workshop during their class time. Different methods for data collection included: students' responses to workshop activities, observation of students and faculty, individual interviews, focus groups, and the workshop survey. Findings suggest the Web-based environment is a powerful medium for workshop delivery and for the promotion of reflective thinking. An equally significant revelation is the importance of a good instructional design on the Web. Consideration of technological limitations and their implications for student learning and motivation are among a number of important issues to focus on in future research. (AEF)

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Faculty Development Workshop: Critical Reflection in a Web-Based Environment

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The ability to think reflectively about teaching has been suggested by many as a key aspect in developing effective teaching practices (Schön 1991; Stevens, 1988; Stevens, 1989). Faculty development efforts have recently been directed towards fostering reflective thinking. The goal is to assist teachers in uncovering personal philosophies of learning and the impact of these philosophies on their practices. The assumption during this effort is that changes in teaching practices occur most effectively when people know why they do the things they do. A faculty development workshop (originally presented in a traditional setting) was created to foster reflective thought about teaching philosophies and practice. To make the workshop accessible to a larger population and to integrate the latest technology, a decision was make to "put the class on the Web." The process of creating, redesigning, and piloting the Web-based workshop as well as results are described.

The major challenge in designing a Web-based version for this workshop was the creation of an environment that facilitates the same type of reflective thought that was generated by small group discussions. A reexamination of theories that define effective teaching and learning was our first step in addressing this challenge. Typically the emphasis on quickly generating a Web-based product takes precedence over careful consideration of what is being done and why. Often what occurs is the presentation of lecture notes in a Web-based environment (Hirumi & Bermúdez, 1996) where little has changed except the method of delivery. However, changing the delivery method should redefine the content and/or presentation. According to Morrison, Ross, and O'Dell (1991) technology that facilitates learning can also limit the experience. It is in the process of integrating technology into teaching practices that the boundaries between facilitation and limitation are clarified.

The purpose of this paper is to describe the process our team used over a six-month period creating, redesigning, and piloting the Web-based workshop as well as the results from our efforts. The motivation for the workshop, the value of the workshop, the way theories informed design decisions, the prototype implementation and evaluation process, and the results/lessons learned are presented in the following sections.

Motivation for Workshop Creation

Moving this workshop from a traditional classroom-like setting to a Web-based environment was motivated by the desire to make it accessible to a larger population and to integrate the latest technology. The very nature of Web-based instruction implies benefits in terms of control over accessibility, convenience, self-containment, and cost effectiveness (Kahn, 1997). However integrating technology in the learning process is not a simple procedure. If we, as a group of instructional designers, were challenged with the transition to a Web-based environment, then teachers (the intended workshop participants) must be equally challenged. By creating this workshop which utilizes Web-based technology, we are providing teachers a "hand-on" experience of learning in this new environment.

Participation in this workshop supports teachers in creating a vision of using Web-based instruction in their own practices in two different ways. First, it supports teachers' critical reflection of their practices through structured reflective activities. Critical reflection is a skill that helps a teacher to develop professionally, make informed

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choices, and develop a rationale for practice (Brookfield, 1990). It is a subset of the much larger process of reflection. It specifically encourages a teacher to examine dynamics that sustain all educational practices and to question assumptions and classroom practices (Brookfield, 1990). Each of the workshop activities provided a framework for teachers' critical reflection on their own teaching philosophies as well as their practices.

Secondly, it provides hands on experience with technology. Progressing through the activities, teachers experience and can appreciate the elements of navigation, design layout, on-screen text presentation, and facilitated communication with others. According to Willis (1994), providing a "hands on experience" with technology is an effective strategy for faculty development using distance education technology. Participants in the workshop were provided an opportunity to experience the logistics of learning in a Web-based environment and experienced an effective design that encourages critical reflection.

Potential Value of the Faculty Development Workshop

Promoting discourse on the rationale and methodologies of instruction may be one of the most valuable applications of this workshop. The noticeable absence of conversations about teaching among professors may be partly the result of either a lack of experience or of pedagogical knowledge. Pedagogical knowledge, knowing appropriate teaching strategies, distinguishes reflective from non-reflective teachers. Copeland, Birmingham, DeMeulle, D'Emidio-Caston, and Natal (1994) summarized meaning making in classrooms for novice, apprentice, and master teachers. Apprentice and master teachers appeared to focus more on the quality of students thinking, engaging students in the process of learning, and improving their disposition toward learning than did the less experienced group.

Introspection and reflection may promote improvement in teaching but may not happen intuitively for all adult learners. In an exploration of the myths of adult learning theory, Brookfield (1992) identifies the misconception that all adult learners are self-directed. Some teachers may wish to be reflective about their practice and philosophy but hesitant about whether or not they can effectively reflect in isolation. The unique environment of facilitated discovery in a Web-based environment provides an opportunity to reflect regularly and conveniently about their philosophy and teaching practices. This reflection could result in clarification and alignment of teaching perspectives and practices (Brooks & Brooks, 1993).

Theory Informs Design Decisions

One of the primary questions we wrestled with as a group of designers was whether or not the Web-based environment is an appropriate medium for facilitating critical reflection. Further if this environment were appropriate, then how would it be designed? What would it look like? These questions stimulated our subsequent design decisions.

Extending the workshop to a Web-based environment necessarily altered the roles of the facilitator and the participants. However, the basic assumptions and learning objectives from the original workshop remained constant. In a traditional workshop setting, the facilitator designs the specific activities, manages their order, determines the amount of time spent on each activity, and relies on visual cues to motivate and engage participants. The facilitator is in control of the learning environment. The transition to a Web-based environment shifts the control of the learning activity from the facilitator to the participant.

This shift in control of learning forced us as workshop designers to reexamine theories of adult learning, instructional design, and motivation. Creating learner control in a Web-based environment requires detailed attention to the design, layout, and presentation of the workshop.

Several different strategies were used to shift the control of learning from the facilitator to the learner. One strategy was to use a table of contents to organize the activities and to provide a vehicle for navigation throughout the workshop. Using this tool, participants had the freedom to choose from five distinct activities. Participants selected which ones to complete, the order, and the time spent on each. Every activity included statements regarding the potential relevancy of the activity and invited participants to think about their teaching philosophy and their classroom interactions. As a second strategy, the workshop was designed as a closed environment. Unlike other Web-based environments which contain multiple hot-links to other outside sites where a user can easily "get lost", this workshop is self-contained. Teachers can work through all the reflective activities in an arbitrary manner, but are provided no links to remote sites. This design feature reduces cognitive load on teachers and supports the less experienced user.

We also examined ways to motivate participation in the activities. This was realized through the use of pictures, readings, quotes, animation, and poetry (Williams & Tollett, 1998).

In addition to the structural changes made to the workshop, specific activities needed to be redesigned to fit the Web-environment. For example, in the original workshop participants were asked to draw a timeline of the highs and lows of their teaching experiences on a large piece of paper. This timeline provided a framework for examining their teaching history and led to an examination of potential new directions. Obviously this type of exercise presented a challenge in the Web-based environment. The "Map" activity was transformed into a guided journaling activity called, "My Journey: Finding Direction by Reflecting on the Past."

Adult learning theory suggests the social construction of knowledge is an important element of any learning experience. Due to the asynchronous nature of the Web environment, social interaction must be carefully constructed. In the pilot of the workshop, we created the role of a "facilitator" to address this concern. As participants completed each activity, their reflections were sent to the "facilitator" with the expectation of receiving a meaningful response in a timely manner. According to Wlodkowski and Ginsberg (1995), and Pintrich and Schunk (1996) facilitators may promote motivation by providing positive, accurate, personal, and timely feedback. This facilitator component of the design emerged as problematic in addressing the need for social interaction during prototype testing. This aspect of the workshop needs to be redesigned.

Prototype Implementation and Evaluation

The development of the workshop and its implementation was a dynamic, ongoing collaboration that we characterized as iterative enhancement. As we explored various theories of adult learning, instructional design, and motivation, we were challenged to define ways these theories would be realized in a Web-based environment. After launching and tinkering with the workshop, we reexamined whether or not the translation met expectations. Extensive changes were entertained. Then it was back to the drawing board to refine the implementation. After multiple iterations of this process, we agreed that formative feedback was essential before proceeding further in our design, redesign process.

We invited two graduate instructional design classes to complete the workshop during their class time. 35 students independently accessed the Web-site to test our prototype.

The pilot population consisted of teachers, library media specialists, instructional designers and ranged in age from 22 to 50 (mean = 37). Approximately two thirds of the population were women. An interesting side note: while 71.5% of the participants labeled their level of computer expertise as competent, highly skilled, or expert, over half of the participants (51.4%) reported this as their first on-line workshop experience.

This testing provided feedback on the content of the workshop as well as its design. Five different methods for data collection were used: students' responses to workshop activities, observations of students and faculty, individual interviews, focus groups, and the workshop survey. These five forms of data collection provided multiple views of workshop activities in promoting critical reflection as well as specific feedback on the design layout and presentation. The data collected contributed to a framework for reflection on the highlights and pitfalls of the workshop thus allowing for a thoughtful redesign.

Redesign and Lessons Learned

Two major successes of the workshop were brought to light through this formative evaluation process. It was clear through comments, observation, and written responses that the Web-based environment is a viable medium for delivery of the faculty development workshops. Our findings revealed that the participants were able to overcome technological challenges and successfully work through reflective activities. This validated our assumption that the Web-based environment can be used to facilitate critical reflection. Additionally, we discovered that the workshop is applicable to a larger population than originally suspected. The target population in development of this workshop was college teachers; however, the prototype evaluations and reflections revealed that other groups of professionals, such as librarians, K-12 teachers, and instructional technologists, also found the experience valuable and thought provoking.

Students said that they particularly liked the poems and graphics of the workshop. One student wrote, "the poems selected were appropriate and fit with pictures." Another student said, "readings-poems fit exercises." Students also felt that the reflection exercises associated with each activity did serve their intended purpose (i.e., to stimulate thought and critical reflection). Comments like, "open-ended questions did stimulate reflection" and "the program forced you to reflect in a way that you otherwise seldom take time to do," led us to conclude that the workshop had succeeded in promoting reflection among its users. Lastly, the data revealed that students were pleased that they were able to navigate freely through the workshop. Students made the following comments: "I liked the open-ended questions - no correct answer" and " I liked being able to move from one activity to another."

One major concern arose from our study of the data. The pedagogical inventory activity appeared to be the weakest of all five activities. Students felt the response choices in the inventory did not relate to the questions asked. Students also questioned the rationale for selecting only one teaching practice for redesign. "The inventory only asks for one change to make. How could someone only have one if they were really reflective?" These concerns strongly implied a redesign of this activity is necessary.

Another important piece of information revealed from the data focuses on the design of Web-based instruction. There were aspects of the workshop design that were positive and others that were irritants. For example, students liked the background design used on all the Web page activities and felt it was not distracting. One student said the background let them know that they were still in the workshop and hadn't "gotten lost on the Web." However, students did not like the use of different fonts of varying sizes, the size of the answer boxes, nor the verbosity of the text. The feedback from the pilot emphasizes the importance of utilizing

consistent design principles throughout a Web-based environment.

Conclusion

The faculty development workshop was created through multiple iterations of conceptualizing workshop activities, implementing design decisions, and examining theories of learning, motivation, and instructional design. The result of this process was a Web-based instructional workshop piloted with a group of 35 participants. Our findings suggest the Web-based environment is a powerful medium for workshop delivery and for the promotion of reflective thinking. An equally significant revelation is the importance of a good instructional design on the Web. Nonetheless, consideration of technological limitations and their implications for student learning and motivation are among a number of important issues to focus on in future research. Although the workshop was originally designed for college faculty development, the pilot revealed a broader application audience to include other groups of professionals such as K-12 teachers, library media specialists, and instructional designers. The lessons learned from our Web-based design experience will be foremost in our minds when we redesign the workshop prototype into a functional online workshop.

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